Adult

CASA

Adult Clinic Assessment
Software Application

USER TOOLS

SAFER
HEALTHIER
PEOPLE™

Department of Health and Human Services
Centers for Disease Control and Prevention
National Immunization Program
Immunization Services Division
Health Services Research and Evaluation Branch

CDC
Immunization

Dear Colleague,

If you have read the ACASA Users Manual, you should be pretty familiar with the Adult Clinical Assessment Software Application (ACASA) Version 3.0.1. This program was developed by the Centers for Disease Control and Prevention's, National Immunization Program in order to facilitate obtaining immunization data on adults.

This guide provides you with user tools to help you when conducting clinical chart reviews using the ACASA in the field.

If you have questions regarding the guide, software-related problems with ACASA, or questions regarding updates from a previous version, contact the ACASA help desk at acasainfo@cdc.gov).

We hope this user's guide is helpful to you!

Sincerely,

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Overview

This users guide includes tools to assist you when conducting ACASA assessments in the field. Included are worksheets that you may use to help streamline the start-up work needed to conduct an ACASA clinic audit, as well as a practice exercise to help you try different data collection scenarios that you may encounter. The following is a summary of what is contained in the guide:

- Pages 3-7 provide you with practice exercises and practice patients that you can use to train your staff prior to the chart audit.
- Pages 8-12 compose a data abstraction form and detailed instructions that you can use to abstract data on a patient when there are not enough computers available for all data abstractors.
- Pages 13-14 provide information that can be given to providers explaining the data abstraction procedures so that they know what to expect prior to the chart audit.
- Page 15-18 provide you with a Site Information Sheet and detailed instructions on how to use it in order to gather information on a site. Information collected on this form include basic demographics and how charts are organized, as well as your estimates of the number of eligible patients and time spent during data entry.
- Page 19 is a worksheet for tallying the number of eligible patients you abstract data on in each age group.
- Pages 20-23 provide a sampling form, instructions on how to sample patients, an example of a method (2 step method) for doing this, and information on how to determine a patient's active status.
- Pages 24-25 provide a list of high-risk conditions and ICD9 codes that are used for ACASA.
- Page 26 provides tips on how to reduce the time it takes to do the assessment.

Data Entry Practice Exercise

Instructions: For each task below, imagine that you are conducting a medical chart review as described. For each task, you should customize your data entry screen using the study criteria given, so that the screens contain only the information you need. Next, enter data only on those subjects who are eligible for the study. Use the same 3 practice patients for each task. Practice patients are listed on pages 5 and 6.

Task #1 You are doing a study where you are recording information on influenza, pneumococcal vaccine, and tetanus/diphtheria. Except for influenza, it does not matter when the shots were given. For influenza, you are concerned with the past two influenza seasons, 2000-2001 (Oct.-Feb.) and 2001-2002 (Oct.-Feb.). The study design requires that you collect all information about the patient, including their name, address, chart number, birth date, sex, race, ethnicity, insurance type, phone number, first and last visit date, the number of visits during the 2001-2002 influenza season, and high-risk condition categories.

Eligibility criteria:

1. At least one clinic visit between the dates of Oct.1, 1999 and Sept. 30, 2001
2. Age 18 and older
3. High-risk condition or age 65 and older

You are conducting an audit on today's date at the St. Ramon Clinic, located in San Diego, CA, San Diego County, zip code 75543. This is a public health clinic.

Task #2 You are doing a study where you're concerned about recording information on influenza and pneumococcal vaccine. Except for influenza, it does not matter when the shots were given. For influenza, you are only concerned with the current influenza season, 2001-2002 (Oct.-Feb.). The study design requires that you collect no personal identifiers except for the chart number. You also are collecting birth date, sex, race, ethnicity, insurance type, first and last

visit date, the number of visits during the 2001-2002 influenza season, and high-risk condition categories.

Eligibility criteria is:

1. At least one clinic visit between the dates of Oct.1, 1999 and Sept. 30, 2001
2. Age 18 and older
3. High-risk condition or age 65 and older

You are conducting an audit on today's date at the Mayflower Clinic, located in Atlanta, GA, Walker County, zip code 88965. This is a private provider's office.

Task #3 You are doing a study where you're only concerned about recording information on influenza. For influenza, you are only concerned with the current influenza season, 2001-2002 (Oct.-Feb.). The study design requires that you collect no personal identifiers. The only data you are collecting are birth dates, sex, the number of visits during the 2001-2002 influenza season, and high-risk condition categories.

Eligibility criteria is:

1. Age 65 and older
2. High-Risk Condition or age 65 and older

You are conducting an audit on today's date at the Long Health Care Center in Los Angeles, CA, Los Angeles County, zip code 80045. This is a Community Health Center.

Task #4 You are doing a study where you're only concerned about recording information on tetanus and diphtheria toxin. The study design requires that you collect no personal identifiers. The only data you are collecting are birth dates, sex, and high-risk condition categories.

Eligibility criteria is:

1. Age 65 and older

You are conducting an audit on today's date at St. Mary's Nursing Home, located at 3850 Fannin Street, Houston, TX, Harris County, zip code 77045.

Practice Patients

Patient #1

Chart # 3762
Maria Fernandez
Birth Date: 02/16/1943
Race: White
Ethnicity: Hispanic
Insurance type: Medicare
Address: 556 Smith Street, San Diego, CA 77890
Phone#: 619-768-5436
Last Visit: January 7, 2002
First Visit: June 3, 1976
During the 2000-2001 flu season, she had 1 visit on December 15, 2000.
During the 2001-2002 flu season, she had 1 visit on January 7, 2002.
Her vaccination record shows the following vaccines:

Pneumococcal vaccine -	June 6, 2000
Influenza:	Nov. 3, 1998
	Dec. 15, 2000
Tetanus and diphtheria toxoid:	June 6, 2000

Problem list: She suffers from Asthma, and had a case of Bronchitis in May 2000.

Patient #2

Chart # 8569
John Jones
Birthdate: August 9, 1961
Race: White
Ethnicity: Non-Hispanic
Insurance status: Not noted
Address: 298 McCarthur Bld., San Diego, CA 75639
Phone#: 619-356-8721
Last Visit: May 3, 2000
First Visit: Sept. 18, 1998

His vaccination record shows the following vaccines:

(none listed)
Problem list: He suffered an Acute Myocardial Infarction in September 2001. Otherwise, he is in good health.

Patient #3

Chart # 7709
Lester Smith
Birthdate: August 28 1924
Race: Black
Ethnicity: Non-Hispanic
Insurance status: HMO
Address: 556 Smith Street, San Diego, CA 90087
Phone#: 619-442-0259
Last Visit: December 8, 2001
First Visit: March 15, 1995

During the 2000-2001 flu season, he had 1 visit on October 27th, 2000.
Since October 2001, he has had 2 visits: Nov. 10, 2001 and Dec. 8, 2001
His vaccination record shows the following vaccines:

Pneumococcal vaccine –	August 18, 1988
Influenza:	Nov. 19, 1999
	Dec. 8, 2001
Measles Mumps and Rubella:	Sept. 20, 1976

His problem list reveals that he suffers from hypertension and an irregular heart beat. He lives in a nursing home.

Site Code _____ Date _____

Adult Assessment Data Abstraction Form

MRN/Chart Number _____

Date of First Visit _____/_____/_____
Last Visit _____/_____/_____

Number of Visits Sept-Jan (flu season) _____

First Name _____ **Last Name** _____ **MI** _____

Date of Birth _____/_____/_____ **Sex (circle)** Male Female

Race (circle) Black Amer-Indian or Alaskan Native
White Native Hawaiian/Pacific Islander
Asian Other Not noted

Ethnicity (circle)
Hispanic/LatinoNon-Hispanic/Latino Not Noted

Address _____

City _____ **State** _____ **County** _____

Zip Code _____ **Phone number** _(___)____-_____

Insurance Medicare None/Self-Pay
Tri Care/Champus Military
State Indigent Health Plan Commercial Insur.
Medicaid Not Noted
(Other _____)

SHOT DATA:

Reasons not Vaccinated:

Medical Contraindication = **MC**	Philosophical/Religion = **Rel**	Provider chose not to vaccinate = PC
Patient says already vaccinated = **AV**	**Allergic = All**	History of Disease = **HD**
Patient Refusal = **Refuse**	No Vaccine = **NV**	Other = **Other**

(Unknown flu date=01/01/year)

Influenza Date: ___/___/___ Reason not vac:_____

Influenza Date: ___/___/___ Reason not vac:_____

Hep B Date: ___/___/___ Reason not vac:_____

Pneumococcal Date: ___/___/___ Reason not vac:_____

Hep A Date: ___/___/___ Reason not vac:_____

DTaP Date: ___/___/___ Reason not vac:_____

MMR Date: ___/___/___ Reason not vac:_____

Td Date: ___/___/___ Reason not vac:_____

Varicella Date: ___/___/___ Reason not vac:_____

Menigitis Date: ___/___/___ Reason not vac:_____

Smallpox Date: ___/___/___ Reason not vac:_____

Risk Factors: (circle all that apply)

Cancer/HIV/Organ Transplantation

Blood Disorder

Renal Disease

Hepatitis C Virus Positive/
Chronic Hepatitis C

Asplenia

Diabetes Mellitus

Heart Disease

High Risk Sexual Activity (i.e. >2 sex partners over 6 month period)

Man who Has Sex with Men (MSM)

Drug Use: (Circle 1)
- IV Drug Use
- Non-Injecting Drug Use
- Drug Use: Type unknown

Occupation: (circle 1)
- Health care Worker
- Community service Worker
- Exposure to blood in workplace

Long term care facility resident

Alcoholism

Cerebrospinal Fluid (CSF) Leak

Organ Transplantation

Asthma

Lung Disease Other than Asthma

Chronic Liver Disease or Cirrhosis

Travel (circle 1):

High-Risk Area for Hepatitis B

High-Risk Area for Hepatitis A

High Risk Area for Measles

Endocrine Disorder other than Diabetes

Race: American Indian or Alaskan Native

Pregnancy

Renal Disease

Living with: (circle 1)

a High-Risk Person for Flu

Person with chronic HPB

Immunocompromized person

Other

Explain Other:

Instructions for Adult Assessment Data Abstraction Form

This form is intended to facilitate data-entry when there are more chart abstractors than laptops/computers and should not be used as an alternative to entering data directly into ACASA.

Site code: Enter the Site Code number that was automatically generated by ACASA when the site was entered in the system. If more than one computer is used to collect data, use the site code generated from the computer that will be used to merge the data.

Date: Enter date of patient chart abstraction. (mm-dd-yyyy)

Physician Name: If you are keeping track of what patients belong to what physicians, write the last name of the physician assigned to the patient.

MRN/Chart Number: If recording patient identifiers, enter the medical record number assigned to the patient by the clinic.

First and last visit dates: The dates of the first and last appointments the patient ever had with the participating physician. (Enter mm-dd-yyyy)

Number of visits: Enter number of patient visits during the most recent influenza season (or the one your study is most interested in). This will be indicative of missed opportunities to vaccinate.

Patient ID: Enter the Patient ID number assigned by ACASA for this patient. (This number includes three letters identifying the clinic site, followed by numbers.)

First Name, Last Name, MI: If recording patient identifiers enter the correct spelling of the patient's first and last name, followed by middle initial.

Date of birth: Patient's date of birth. (Enter mm-dd-yyyy)

Sex: Circle the gender of patient.

Race: Circle race of patient if available.

Ethnicity: Circle ethnicity of patient if available.

Address: If contacting patients by mail, enter the patient's street address.

City/State/County: Enter this information if contacting patients by mail or if these demographics are needed for your study.

Zip Code: Enter the zip code of the patient's address. (Without contacting patients directly, this field will give you some basic demographic information about the patient. If you are not contacting patients by phone or mail, consider customizing those

fiends out of your data collection and only collecting zip codes.)

Phone number: Enter this information if contacting patients by phone.

Insurance: Circle patient's insurance. (Medicare, Medicaid, commercial insurance, none/self pay, or not noted) If patient has both Medicare and commercial insurance please check commercial insurance. Note that CHAMPUS can be entered as "commercial insurance". For California patients receiving Medi-Cal, circle Medicare.

Shot data: For each vaccine of interest, enter the vaccination date. If vaccines were not given and there is a reason recorded in the medical record, enter the reason not given,. (Note: if the medical record notes that a vaccine was given during a specific year, but the exact date is not recorded, use the default date 01/01/year. For influenza, pay attention to what flu season the shot was given in, so as to not put in the wrong year! For example, for an influenza vaccine given in November of 1999, (during the 1999-2000 flu season) use 01/01/2000 as the date, **NOT** 01/01/1999. Record all vaccinations mentioned in the medical record, even if they were not given at the site where you are doing the chart audit!

Risk Factors: Circle all risk factors that apply to the patient. Use diagnoses, **NOT** symptoms, that are listed in the patient's medical record. (Note: If the patient is aged 65 or older, he/she is automatically at-risk for influenza and pneumonia. Therefore, you may choose to ignore other risk factors for these patients. This should be determined before beginning the study.)

Information To Give To Providers

What to do and what to expect

Every effort will be made to make this as simple as possible for you and your staff:

1. A representative of the study will call you in advance to set up the date of the visit to provide you with an opportunity to ask further questions and to suggest ways to make the visit as easy as possible on you and your staff.

2. On the scheduled day of the visit, a team of between 2 to 6 people will come to your office for the chart review. They will briefly introduce themselves, answer any questions you may have, and ask you or a staff member to show them where the data to be collected is located in the office and in the chart (e.g., face sheet, problem sheet, progress notes). We estimate that they will be at your office for about 5 hours, on average, depending on the number of abstractors. If available, a table or other small work surface for the reviewers would be helpful (empty table in a break room, etc.). The reviewers may bring laptops and enter the data using software created by CDC, or they can choose to use paper forms.

3. The abstractors will need to pull data from 100 charts. Data to be collected may include: patient date of birth, date of first and last physician visit, number of visits during the past influenza season, insurance status, date of influenza vaccination, other vaccinations that the patient received while attending your practice, gender, race and ethnicity if available, presence of high risk medical conditions (e.g., heart disease, diabetes). They will re-file the charts they abstract unless you prefer to have your staff do this.

4. You may choose to provide vaccination logs or lists of patients before the chart audit to help minimize the time spent on the visit. If so, the chart audit team will provide your practice with the birth date age ranges of patients they need. Some providers can list out patients who received influenza vaccine from their billing databases. If these lists are not available, reviewers will randomly pull the charts from the shelves until they fill their quota.

A brief questionnaire (Site Information Sheet) asking about some general demographic information of your patients and where information is found in your charts will be given to you at the time of the visit. This usually takes less than 5 minutes to complete.

Site Information Sheet

Adult Clinic Assessment Software Application (ACASA)
National Immunization Program CDC

Site Code: _____ (code assigned to site by ACASA)

Date of chart review: _____-_____-_____ (mm-dd-yyyy)

Provider type (please check one): □ Private provider, solo
□ Private provider, group □ HMO □ Other _____

Computer listing used by abstractors?
□ No
□ Yes, by age group/birthdate
□ Yes, list of vaccinated

File organization of charts: (check all that apply)

□ Alphabetical □ Charts for doctors mixed together, not tagged
□ Chart number □ Charts for doctors mixed, but tagged
□ Charts filed separately by doctor
□ Other _____

Location of:
Birth date: □ chart cover □ face sheet
□ other _____

High risk condition: □ problem sheet □ progress notes
□ other_____

Influenza vaccination date:
□ computer list □ vaccination log
□ stack of consent forms □ progress notes
□ chart face sheet □ other _____

Vaccination is recorded:
□ only if patient receives it from the practice
□ if patient receives it elsewhere; it is recorded in same manner as vaccine received in the practice, and cannot be distinguished

Race of patient population %: _____ White _____ Black _____ Asian _____ Native American/Pacific Islander ____ Other

Ethnicity %: _____ Hispanic _____ Non-Hispanic

Estimate total # eligible patients in practice _____
(Eligible = at least one visit or contact (__/__/__–
__/__/__) (specified dates for your study inclusion
criteria)

Eligible sampled 18-64 _____ (__/__/____-
__/__/____) (birth dates determined for your study
inclusion criteria)

Eligible sampled ≥ 65 _____ (≤
__/__/__)

(Table on following page can be used as a worksheet for
tally marks)

Time spent: Sampling charts _____ Chart reviews _____
Replacing charts _____

 # Data collectors: _____
Names: _____

Notes:

Instructions for Site Information Sheet

Please complete one form for each provider practice visited.

Site code: This is a code that will be automatically generated by ACASA when the site is entered in the system. If more than one computer is used to collect data, use the site code generated from the computer that will be used to merge the data. It is essential to record this correctly.

Date of chart review: Enter date that you are performing the chart audit. (mm-dd-yyyy)

Provider type: Please check type of medical practice. (Private provider, solo; Private provider, group; HMO; other)

Computer listing of patients used? Check "Yes, by age group/birthdate" if abstractors used lists to identify eligible patients by birth date or age. Check "Yes, list of vaccinated" if vaccination data was obtained from a list.

File organization: Check all that apply regarding practice's file organization. (i.e., filed alphabetically, filed by chart number, different physicians' charts mixed together but not tagged to identify the physician, etc).

Location of relevant information in chart: Please record where you looked in the chart or office to locate the birth date, vaccination date, and high-risk condition(s). For vaccination data, please note if you obtained data from a computer list, vaccination log, stack of consent forms, chart progress notes, chart vaccination or face sheet, etc.

Vaccination is recorded: Please indicate if vaccine received inside and outside the practice is recorded in the same way. The purpose of this is to determine if we will be counting vaccinations that may have been received outside of the practice.

Race of patient population: Ask for an estimate of the racial distribution of patients in the practice.

Estimate total number of eligible (active) patients in physician's practice: e.g., count the number of eligible charts on one shelf and multiply by the number of shelves in practice. Patient eligibility criteria should be determined prior to the site visit.

- Number of Eligible sampled in 19-64 age group: add up tally marks from # of charts abstracted for data + # eligible charts beyond quota in this age group. (To be eligible in this age group, a patient must be identified in at least one of the high-risk categories in the ICD9 Code list.)
- Number of Eligible sampled in ≥65 age group: add up tally marks from # of charts abstracted for data + # eligible charts beyond quota in this age group.

Time spent: Record time spent sampling charts, reviewing charts, and replacing charts.
 # Data collectors: Record # of data abstractors.
Names: Record names of data abstractors.
Comments: Add any additional information.

Worksheet For Tallying Patients

Step 1: Choose one typical shelf in the practice. Go through all of the charts on that shelf to find eligible patients. Use the Sampling Form to enter each chart you pull.

Step 2: Count the number of eligible charts found, or the total from the bottom of the Sampling Form, and write this number below. Next, count the total number of shelves in the entire practice write this number below.

(_____ X _____=_____)
elig on 1 shelf # shelves total # elig in practice

Step 3: Perform the multiplication shown on Step 2. Then transfer the result, (total # eligible patients in the practice) to the second page of the Site Information Sheet.

Step 4: Keep a running count of charts reviewed by making tally marks below, for the practice.

Age Group	Birth date range for eligibility	Number of eligible charts abstracted for data in each age group
18-49	(__/__/____- __/__/____)	
50-64	(__/__/____- __/__/____)	
≥ 65	(≤ __/__/____)	

When you have reached your quota of eligible charts, complete the following:

Total # Eligible patients sampled (add tally marks, transfer to Site Information Sheet):

18-49 _____
50-64 _____
≥65 _____

Continue to pull charts until you have abstracted the number of charts required for your study. (example: 100 charts)

Sampling Form[1]

First 3 letters of physician's last name or site name (if multiple sites pulled at one location)	**Chart Number**	**Date of birth**	**Visit _/_/__(specified date for inclusion criteria)- present**	**Eligible**
		(mo,day,year)	(yes/no)	(yes/no)
			Total Eligible:	

1. Instructions for Sampling Patients

1.1 <u>Selecting a sample of charts</u>

[1] This form can be used to help you keep track of eligible charts as you find them.

From the 'eligible' patients, you will need to identify the following:

1. The total number of ‘eligible’ patients in the practice (If conducting assessments for only patients 65 and older, then skip to the third age group shown on the Worksheet for Tallying Patients.)
2. The number of 'eligible' patients in the practice in each of the age groups your study is concerned with (18-49, 50-64, ≥65 years). These will be used as sampling weights in analyses to obtain appropriate estimates, confidence intervals, etc.

Note: If billing records can be accessed then ask for lists of patients born in the birth date ranges for the age groups of interest (either separate lists for each age group, or one list sorted by birth date). If the clinic has the capability to do this, ask for a list of patients who had a visit within the eligibility dates you are looking for. The lists should include:

1. patient identifier to be used to locate charts, e.g., name or chart number
2. date of most recent visit (service date)
3. birth date if the list is sorted by birth date instead of age group

There are different ways to choose patients at random from the patient list. The simplest systematic, but less than ideal, method is to divide the number of patients in the age group by the number needed. For example, for the ≥65 year age group, you were given a list with 250 eligible patients. Let’s say you need 25 in this age group. Therefore, divide 250 by 25 (250/25 = 10). You will select every 10^{th} patient on the list. (Over sampling is recommended.)

If lists are not available, you can use the ‘two-step shelf method’, which has been used in pediatric CASA.

1.2 Two step shelf method

This method is provided on the Worksheet for Tallying Patients.

Step 1 is determining the total number of eligible (active) patients in the physician’s practice overall, based on one or a few shelves.

To calculate # of eligible patients: Total number of eligible patients in the practice = # eligible charts on 1 shelf multiplied by the number of shelves in the practice. Improved accuracy can be achieved by selecting more than one shelf to make the estimate. (For example, choose 8 shelves instead of 1. There are 250 shelves in clinic A and you found 10 eligible patients in the first 8 shelves, then 250/8 = 31.25. 31.25*10 = 312.5. So there are approximately 313 eligible patients at clinic A).

Step 2 focuses on pulling eligible charts, tallying all eligibles (including those beyond the quota for an age group), and abstracting the data until the quota is met for each age group. Randomly choose shelves (clusters), and pull each chart on that shelf sequentially to determine those who are eligible. Find the birth date and note the age group, or put them into separate piles by age group. Keep pulling charts until you have the number needed in each age group who had a visit or contact that designates them as 'eligible'. As you pull each chart, keep a running tally of the eligible patients in each age group on the Worksheet for Tallying Patients.

1.3 Determining an Active Patient

The criteria for determining active status of patients should be determined prior to the date of the chart audit. For example, a patient could be considered active if he/she has had at least one clinic visit in the past two years and there is no documentation in the medical record that the patient has moved or gone elsewhere. Another way to define this would be to ask the clinic manager what his/her definition of an active patient would be (e.g. any patient who has a medical record on a particular rack of shelves). Using the clinic manager's definition of an active patient may significantly increase the speed of a chart pull.

1.4 When is a patient considered as having moved or gone elsewhere (MOGE)?

Documentation that patients are going elsewhere for medical care should be the standard. At least one of the following documentation in the medical record should be required:

1. The patient's records were transferred to a new practice;
   OR
2. A letter from another provider stating that the patient is in a new practice;

OR

3. A mailed reminder card/letter returned by the post office without a local forwarding address.

OR

4. The patient or caregiver stated that the patient was seeing another provider for their medical care.

OR

5. A home visit or telephone contact indicated that the patient no longer resided at that address.

Unacceptable documentation includes unsuccessful telephone attempts to reach the patient, or multiple patient no-shows.

Note: A nursing home patient is not automatically considered inactive as long as he/she has an active medical chart and is receiving care at the clinic where the chart audit is being performed.

List of High-Risk Conditions

Age Range

Over 65 < __/__/__

High Risk __/__/__ to __/__/__

Heart Disease

Influenza Vaccine

394 Diseases of mitral valve
395 Diseases of aortic valve
396 Diseases of mitral and aortic valves
398.91 Rheumatic heart failure (congestive)
402.01, .11, .91 Hypertensive heart disease with CHF
404.01, .03, .11, .13 Hypertensive heart and renal disease with CHF
410 Acute myocardial infarction
411 Other acute and subacute forms of ischemic heart disease
412 Old myocardial infarction
413 Angina pectoris
414 Other forms of chronic ischemic heart disease
416 Chronic pulmonary heart disease
425 Cardiomyopathy
428 Heart failure
440 Artherosclerosis

Pneumococcal Vaccine

398.91 Rheumatic heart failure (congestive)
402.01, .11, .91 Hypertensive heart disease with CHF
404.01, .03, .11, .91, .93 Hypertensive heart and renal disease with CHF
416 Chronic pulmonary heart disease
425 Cardiomyopathy
428 Heart failure

Cancer/HIV/Organ Transplantation

Influenza Vaccine

042 Human immunodeficiency virus (HIV) disease
V42.0 Kidney transplant
V42.1 Heart transplant
V42.6 Lung transplant
V42.7 Liver transplant
V42.8 Bone marrow transplant
V58.0 Radiation therapy
V58.1 Chemotherapy

Pneumococcal Vaccine

042 Human immunodeficiency virus (HIV) disease
V42.0 Kidney transplant
V42.1 Heart transplant
V42.6 Lung transplant
V42.7 Liver transplant

Pneumococcal Vaccine

V42.8 Bone marrow transplant

Lung Disease Other than Asthma

Influenza Vaccine

491 Chronic bronchitis
492 Emphysema
494 Bronchiectasis
496 Chronic airway obstruction, NEC
506.4 Chronic respiratory conditions due to fumes and vapors
518 Compensatory emphysema

Pneumococcal Vaccine

491 Chronic bronchitis
492 Emphysema
494 Bronchiectasis
496 Chronic airway obstruction, NEC
506.4 Chronic respiratory conditions due to fumes and vapors
518 Compensatory emphysema

Alcoholism

Pneumococcal Vaccine

291 Alcoholic psychoses
303 Alcohol dependence syndrome

Asthma

Influenza Vaccine

493 Asthma

Diabetes

Influenza Vaccine

250 Diabetes mellitus

Pneumococcal Vaccine

250 Diabetes mellitus

Cancer/HIV/Organ Transplantation (Continued)
V58.0 Radiation therapy
V58.1 Chemotherapy
200 Lymphosarcoma and reticulosarcoma
201 Hodgkin's disease
202 Other malignant neoplasms of lymphoid and histiocytic tissue
203 Multiple myeloma and immunoproliferative neoplasms
204 Lymphoid leukemia
205 Myeloid leukemia
206 Monocytic leukemia
207 Other specified leukemia
208 Leukemia of unspecified cell type

Liver Disease
Pneumococcal Vaccine AND Hepatitis A Vaccine
571, 572, 573.0 Chronic liver disease and cirrhosis

Hepatitis A Vaccine
Hepatitis C positive antibodies

Cerebrospinal Fluid (CSF) Leak
Pneumococcal Vaccine
V45.2 CSF drain

Travel
Hepatitis A Vaccine (certain countries – refer to ACIP recommendations)

Hepatitis B Vaccine (certain countries – refer to ACIP recommendations)

Nursing home/Long Term Care Facility Resident
Influenza Vaccine

Health Care Occupation
Influenza Vaccine

Renal Disease
Influenza Vaccine AND Hepatitis B Vaccine
585 Chronic renal failure

Pneumococcal Vaccine AND Hepatitis B Vaccine
581 Nephrotic syndrome
585 Chronic renal failure

Blood Disorders
Influenza Vaccine AND Hepatitis A Vaccine
282.4 Thalassemias
282.6 Sickle-cell anemia

Pneumococcal Vaccine AND Hepatitis A Vaccine
282.6 Sickle-cell anemia

Asplenia
Pneumococcal Vaccine
759.0, 746.87 Asplenia, asplenia with mesocardia

Behavioral
Hepatitis A Vaccine AND Hepatitis B Vaccine
Men who have sex with men (MSM)
Intravenous (IV) Drug Use

Hepatitis A Vaccine
Non-Injecting Drug Use

Hepatitis B Vaccine
Drug use – type unknown
High-risk sexual activity (defined as >2 sex partners in 6 months)
Health care occupation

Race
Pneumococcal Vaccine
American Indian
Alaskan Native

Pregnancy 2nd or 3rd trimester during flu season
Influenza Vaccine

Streamlining the Assessment

Following are some tips for conducting the chart audit when time or human resources are limited.

Take inventory:
It is important to take an accurate inventory of your resources prior to the assessment to ensure that your chart audit can be completed during one site visit. Consider how many chart abstractors you will need to do the assessment and the time required. We suggest using 4 chart abstractors. It takes between 4 to 8 hours to do a 100 person chart audit using 4 chart abstractors, depending on what choices you make about the type of data you will collect and the level of preparation you have done prior to the assessment.

How much time the audit takes will depend on five things:

1. ***Level of preparation*** (i.e. Chart pulling procedure: by clinic staff / by your staff, having the necessary tools: chart abstraction sheets (y/n), laptops, list of high-risk conditions, ACASA users manual. Copies of tools)

2. ***Chart organization at the clinic you have chosen*** (i.e. Do they have an immunization sheet in charts? Are charts disorganized? Do they have birth dates on the outside? Are high-risk conditions found in one place in chart?)

3. ***How many chart auditors you use*** (We recommend at least four).

4. ***What type of data you collect*** (i.e., patient names, first & last visit dates, # of visits during flu season, high-risk conditions, etc.) The fewer data points, the less time-consuming.

5. ***How many charts you sample*** The smaller the sample size, the less time-consuming.